



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/872,292

06/01/2001

Delmur R. Mayhak JR.

40134.1USU1

9208

23552 7590 05/04/2007

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

BOYCE, ANDRE D

ART UNIT

PAPER NUMBER

3623

MAIL DATE

DELIVERY MODE

05/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/872,292

Applicant(s)

MAYHAK ET AL.

Examiner

Andre Boyce

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, 16, 17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, 16, 17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Final office action is in response to Applicant's amendment filed February 8, 2007. Claims 1, 16 and 25 have been amended. Claims 1-12, 14, 16, 17 and 19-26 are pending.
2. Applicant's arguments filed February 8, 2007 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-4, 6, 7, 9-12 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirsch et al (WO 97/25682).

As per claim 1, Hirsch et al disclose a method of scheduling a plurality of patients and a plurality of employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29), wherein at least two patients receive treatment during a predetermined time period (figure 12), said scheduling method comprising: for each patient, evaluating patient care requirements (i.e., patient record including proposed medical procedure, pg 15, lines 26-29), wherein the patient care requirements correspond to actual employee time requirements necessary to satisfy

the patient care requirements (i.e., procedures listing screen, including average time, figure 7) and evaluating employee time requirements necessary to satisfy non-patient care activities (i.e., hospital policies such as proactive and reactive emergency policies used as goals and constraints, pg 18, lines 28-30 and pg 19, lines 1-3); in response to the patient care requirement evaluation and the non-patient care requirement evaluation (i.e., various goals and constraints of the scheduling system, pg 18, lines 28-30 and pg 19, lines 1-3), adjusting scheduling time throughout a predetermined time period (i.e., cases which already exist for a particular day can easily be rescheduled by dragging the line to a different calendar date, page 18, lines 24-26) and scheduling employees in response to the distributed employee time requirements (i.e., surgeon selects time interval for starting procedure, while providing the scheduling system sufficient latitude to optimize the resulting schedule, pg 15, lines 21-23).

As per claim 2, Hirsch et al disclose the predetermined time period is a day (pg 14, line 10), the method further comprising: dividing the day into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and in evaluating the patient care requirements, determining the patient care requirements on a per-interval basis (i.e., system preferences allow a surgeon to select a time interval for starting a procedure, pg 15, lines 21-23).

As per claim 3, Hirsch et al disclose the patient care requirements are averaged over more than one interval (i.e., average times to perform procedures are calculated and stored, pg 16, lines 25-27).

As per claim 4, Hirsch et al disclose a plurality of job types for an employee are predetermined (i.e., staff record, figure 8), each job type having a different patient care capability value associated with each job type (i.e., service code and roles, including hierarchy #, figure 1) and wherein the method further comprises: scheduling shifts of employees based on job type; scheduling employees based on scheduled job type (i.e., feasible schedules determined by the system, figure 13).

As per claim 6, Hirsch et al disclose each employee has a predetermined patient care capability (i.e., service title and procedures performed, figure 8) and wherein the method further comprises scheduling employees in relation to patient care capability (i.e., service code and role for a particular case/procedure, figure 1).

As per claim 7, Hirsch et al disclose the patient care capability relates to indirect and direct patient care activities (i.e., pre-op information, figure 11).

As per claim 9, Hirsch et al disclose dividing the predetermined time into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and displaying a plurality of patient schedules in relation to time to provide a visual indication of the patient care requirements for each interval (figure 12).

As per claim 10, Hirsch et al disclose calculating patient requirement values (i.e., average time to perform procedure, pg 16, lines 24-27) for an employee (i.e., surgeon) based on the patient care requirements for a plurality of intervals (i.e., average time to perform) and displaying the calculated values (figure 7).

As per claim 11, Hirsch et al disclose displaying employee shift information in relation to time (i.e., surgery start and surgeon) to provide a visual indication of scheduled employee information in relation to scheduled patient information (figure 12).

As per claim 12, Hirsch et al disclose calculating a total value of employee time for each interval; displaying the calculated employee values (i.e., estimated length of scheduling, figure 11), and comparing patient requirement values and employee values for each interval to determine efficiency (i.e., scheduling via the system to increase utilization rate, based upon scheduling of staff, pg 20, lines 5-10).

As per claim 25, Hirsch et al disclose a graphical user interface for a computer system, the graphical user interface having a display module for displaying information (i.e., GUI for the scheduling system, figures 1-6), said graphical user interface comprising: a patient schedule portion (i.e., patient input screen, figure 2), the patient schedule portion logically divided into intervals and displaying patient schedule information related to the intervals (i.e., patient procedure schedule, figure 12); an employee schedule portion logically divided into intervals, wherein the intervals for the patient schedule portion correspond to the intervals for the employee information portion (i.e., time slot preferences, figure 1); and a calculation display area for displaying calculated values within each interval, the calculated values relating to temporary or permanent patient care requirements and employee capabilities for each interval (i.e., calculation of average time to perform a procedure, pg 16, lines 25-27 and average time of an average surgeon to complete procedure, pg 16, lines 25-27) based on the employee's direct care, indirect care and non-

patient care tasks during the time interval (i.e., optimization factors and constraints including an interaction factor among surgeons, patients, anesthesiologists, CRNAs, RNs, Techs, etc., thus including both direct and indirect care tasks, page 11, lines 12-15 and hospital policies such as proactive and reactive emergency policies, pg 19, lines 1-3), whereby the calculation display area provides efficiency information (figure 14).

Claim Rejections - 35 USC § 103

5. Claims 5, 8, 14, 16, 17, 19-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirsch et al (WO 97/25682), in view of Rosse (USPN 6,640,212).

As per claim 5, Hirsch et al does not explicitly disclose the patient care capability value is averaged over an entire shift. Rosse discloses assigning staff schedules, wherein the selected staff for a specific assignment includes the percent of shift assigned (i.e., the capability of assigned staff over entire shift, figure 15). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include patient care capability value is averaged over an entire shift in Hirsch et al, as seen in Rosse, as an effective means of determining the availability of the staff member in terms of percent of shift assigned, thus making the Hirsch et al system more efficient in determining surgeon availability.

As per claim 8, Hirsch et al does not disclose each employee further has a predetermined non-patient care capability relating to performing non-patient care activities, and wherein the method further comprises: calculating a staff efficiency valued based on scheduled activities, wherein the activities relate to patient care and non-patient care activities. Rosse discloses non-client duties that do not involve patient participation (column 8, lines 11-14). Further, Rosse discloses the percent of shift assigned, which includes both client and non-client duties (figure 15). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a staff efficiency value based on scheduled activities, wherein the activities relate to patient care and non-patient care activities in Hirsch et al, as seen in Rosse, as an effective means of determining the efficiency of the staff members in terms of percent of shift assigned, thus making the Hirsch et al system more effective in determining surgeon availability during a shift.

As per claim 14, Hirsch et al does not disclose staggering the start time of at least two patients to allow one employee to substantially service the needs of the at least two patients. Rosse discloses pairing the duties corresponding to client activities with available and qualified staff members (column 10, lines 56-58), wherein duties include the staff helping the client with grooming, wherein multiple clients may be helped simultaneously (figure 16). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include substantially servicing the

needs of the at least two patients in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 16, Hirsch et al disclose a method of scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: compiling a plurality of patient profiles, each profile associated with a different patient (i.e., patient record, pg 15, lines 26-29), and wherein each profile comprises information related to the direct patient care needs of the associated patient (i.e., patient record including proposed medical procedure, pg 15, lines 26-29); compiling a plurality of employee profiles, each profile associated with a different employee (i.e., staff record, figure 8) and wherein each profile comprises information related to the patient care capability of the associated employee (i.e., service title and procedures performed, figure 8); calculating scheduling efficiency information relating to a generated schedule of patients and employees based on the patient profiles and employee profiles (i.e., obtaining a tractable set of feasible schedules, which are targets of optimization, pg 19, lines 22-23 and figure 13); and adjusting the schedule to generate a more efficient schedule (i.e., optimization of schedule, figure 13).

Hirsch et al does not disclose wherein the calculation rounds up an amount of employees scheduled when a determination results in a fractional number of employees needed to address the needs of the plurality of patients profiles. Rosse discloses the master scheduler providing organization and design assistance for setting up staffing requirements routine and daily staff scheduling (column 7, lines 6-

Art Unit: 3623

9). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include setting up staffing requirements in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 17, Hirsch et al disclose compiling facility information, the facility providing the health-care environment (i.e., operating room input, figure 4), and wherein the facility information relates to the limitations of the facility (i.e., minimum operation times, default setup, cleanup, and roundup times, pg 16, lines 12-14); and calculating facility efficiency information in relation to the facility information and the scheduling information (i.e., utilization rate, figure 14).

As per claim 19, Hirsch et al disclose a system for scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: a memory store for storing patient information related to the needs of a plurality of patients (i.e., patient record, figure 2), resource information and employee information related to patient care capability of a plurality of patients (i.e., operating room information and staff member records, figures 4 and 8); a scheduling module that schedules patients and employees according to patient needs (i.e., optimization engine conducts two-phase optimal scheduling, pg 10, lines 26-30), and a display unit for displaying the scheduled patient information in combination with scheduled

employee information (figure 12), the display providing efficiency information (figure 14).

Hirsch et al does not explicitly disclose wherein the scheduling module rounds up an amount of employees scheduled when a determination by the scheduling module results in a fractional number of employees needed to address the needs of the plurality of patients. Rosse discloses the master scheduler providing organization and design assistance for setting up staffing requirements routine and daily staff scheduling (column 7, lines 6-9). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include setting up staffing requirements in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 20, Hirsch et al disclose the scheduling module further calculates the needs of each patient based on a per-interval basis (i.e., calculation of average time to perform a procedure, pg 16, lines 25-27) and for calculating the employee capability on a per interval basis (i.e., average time of an average surgeon to complete procedure, pg 16, lines 25-27).

As per claim 21, Hirsch et al disclose the calculated needs of the employees and patients are displayed on the display unit (figure 6).

As per claim 22, Hirsch et al does not disclose scheduling module further calculates a comparison value related to patient requirements and employee capabilities for each interval, said comparison values displayed on the display unit.

Art Unit: 3623

Rosse discloses pairing the duties corresponding to client activities with available and qualified staff members (column 10, lines 56-58), wherein a duty contains all the documents, staff qualifications, and/or training requirements, and corresponding category value (figure 11). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a comparison value related to patient requirements and employee capabilities for each interval in Hirsch et al, as seen in Rosse, as an efficient means of determining qualified staff, making the Hirsch et al system more robust.

As per claims 23 and 24, Hirsch et al does not disclose the calculated values are automatically updated and displayed following a modification to the patient/employee schedule information. Rosse discloses duty reassignment and assignment revisions, which allow modifications to staff and client schedules (column 12, lines 57-63 and column 13, lines 65-67). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculated values are automatically updated and displayed following a modification to the patient/employee schedule information in Hirsch et al, as seen in Rosse, as an effective means of making modifications, in order to better serve the patient in the Hirsch et al system.

Claim 26 is rejected based upon the rejection of claims 23 and 24, since it is the interface claim corresponding to the system claims.

Response to Arguments

6. In the Remarks, Applicant argues, with respect to claims 1 and 25, that Hirsch et al and Rosse fail to disclose considering non-patient care requirements for an employee. The Examiner respectfully disagrees. Hirsch et al disclose hospital policies such as proactive and reactive emergency policies used as goals and constraints in the Hirsch et al scheduling system (pg 18, lines 28-30 and pg 19, lines 1-3), thus indeed disclosing employee time requirements necessary to satisfy non-patient care activities.

With respect to claims 16 and 19, Applicant argues that Hirsch et al and Rosse fail to disclose rounding up an amount of employees scheduled when a determination by the scheduling module results in a fractional number of employees needed to address the needs of the plurality of patients. The Examiner respectfully disagrees. Rosse discloses the master scheduler providing organization and design assistance for setting up staffing requirements routine and daily staff scheduling, including identifying shortages and staffing summaries (column 7, lines 6-9). As such, by identifying shortages, the master scheduler process determines when additional employees are needed, thus indeed rounding up the amount employees needed to cover the determined shortage.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3623

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

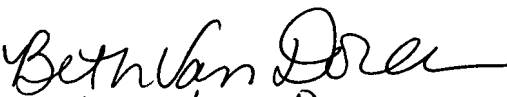
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


adb
April 27, 2007


Beth Van Doren
AU 3623
Primary Examiner